leyan College building about 12:15 a. m., completely wrecking it. There were seven persons sleeping in the building at the time who escaped unhurt. Parts of the roof were carried for a distance of a half a mile, and some of the timbers were driven into the ground to a depth of from two to three feet. The damage is estimated from ten to fifteen thousand dollars. At Mound City, Atchison county, the damage done was very great. Large trees were twisted off and others uprooted.

Jerseyville, Illinois 9th: Severe storm passed over this county, striking this city about one a. m. The heavy walls of a business house were blown down, together with a brick smoke-stack and numerous chimneys. Several out-buildings in vicinity were blown down. Near Newburn, forty miles of fence was destroyed, and in that section the storm was accompanied by hail, which did much damage to wheat.

Bunker Hill, Illinois, 9th: The storm of wind and rain of last night was most severe. Large numbers of shade and forest trees were uprooted.

Minneapolis, Minnesota, 9th: It is reported that a school-house five miles southwest of Lakefield was struck by a tornado yesterday. The building was lifted and scattered over the prairie. It was occupied by a teacher and eleven pupils, all of whom are more or less injured. The storm appeared in the form of a funnel-shaped cloud, which bounded along the prairie and passed into Herron lake, sucking up water to a height of one hundred feet.

Memphis, 10th: The severe storm, which swept over this section yesterday afternoon, did considerable damage. To the south and in the vicinity of Moor's Landing, trees and fences were blown down.

Fort Benton, Montana, 12th: Severe storm during night; wind attaining a velocity, for a few minutes, of seventy miles per hour. No serious damage resulted.

VERIFICATIONS.

INDICATIONS.

The detailed comparison of the tri-daily indications for May, 1882, with the telegraphic reports for the succeeding twenty-four hours, shows the general average percentage of verifications to be 89.5 per cent. The percentages for the four elements are: Weather, 92.9; Direction of the Wind, 88.8; Temperature, 88.2; Barometer, 87.9 per cent. By geographical districts they are: For New England, 84.8; middle Atlantic states, 87.8; south Atlantic states, 91.2; east Gulf states, 90.1; west Gulf states, 91.3; lower lake region, 90.6; upper lake region, 88.3; Tennessee and the Ohio valley, 90.7; upper Mississippi valley, 90.4; lower Missouri valley, 89.8; northern Pacific coast region, 77.1; middle Pacific coast region, 96.9; southern Pacific coast region, 87.5

There were sixty-nine omissions to predict (twenty-one being due to the absence of reports from the Pacific coast) out of 3,813, or 1.8 per cent. Of the 3,744 predictions that have been made, 53, or 1.42 per cent., are considered to have entirely failed; 85, or 2.27 per cent., were one-fourth verified; 292, or 7.80 per cent., were one-half verified; 521, or 13.92 per cent., were three-fourths verified; 2,793, or 74.59 per cent., were fully verified, so far as can be ascertained from the tri-daily reports.

CAUTIONARY SIGNALS.

Ninety-one cautionary signals were displayed during the month of May, of which seventy three or 80.2 per cent were justified by winds of twenty-five miles per hour, at or within one hundred miles of the station. Thirteen "off-shore" signals were displayed, of which six, or 46.2 per cent., were fully justified; ten, or 76.9 per cent., were justified as to direction; and six, or 46.2 per cent., were justified as to velocity One hundred and four signals of all kinds were displayed, of which seventy-nine, or 76 per cent., were justified. The above does not include signals ordered at sixty-nine display stations, where the velocity is estimated only.

Seventeen signals were reported late.

NAVIGATION.

STAGE OF WATER IN RIVERS.

In the table on the right hand of chart iii., are given the highest and lowest stages of water observed at Signal Service stations during the month of May, 1882. The Mississippi at Vicksburgh continued to fall, but remained above the danger line throughout the month. At New Orleans, the lowest point, [two inches below the danger-line] was reached on the twenty-ninth. At Memphis on the twenty-second, the water rose to within nine inches of the danger line; at Cairo on the twenty-second to thirty inches, and at Keokuk on the sixth, to twenty-two inches above the danger line. The highest water in the Ohio occurred from the thirteenth to the eighteenth. The Missouri was highest at Leavenworth on the twenty-second and thirty-first, and at Omaha on the twentieth.

FLOODS.

The excessive rainfall in the western Gulf states during the month has caused disastrous floods, entailing loss of life and much damage to property, especially in the state of Arkansas.

At Jacksonport, Arkansas, the overflow was the most destructive that has been visited that section for years. The town was completely submerged, and many persons were obliged to take refuge in the upper stories of storehouses.

The flood is said to have been the highest since 1876, the whole country for miles around being a sea of water. The damage to the wheat crop is very great.

At Batesville, Arkansas, May 12th, during a heavy rain-storm, which continued in torrents for twenty-four hours, the rivers and creeks rose to an unusual height. Mills, houses, bridges, and fences were washed away, and not only the crops, but in many cases, the soil is gone, leaving only a bare clay surface. The damage to property in the valley of the White river is generally estimated at more than $500,000.

At Hot Springs, the damage to property amounted to $30,000; all the bridges and foot-paths were destroyed, several buildings were washed to pieces, and the foundations of others were weakened. Stables, small outhouses, sheds, &c., were totally carried away. Railroad communication was entirely suspended owing to the damage sustained by the tracks and the destruction of bridges.

In Conway county, the destruction was very great, many acres of land being submerged and the crops destroyed; the total loss in this county is estimated at $100,000.

At Little Rock, on the ninth, the streets were flooded, those leading in the direction of the river having the plank sidewalks washed away. The railroad tracks suffered injury and trains were delayed.

Reports from southern Illinois, dated May 5th, state that heavy and unprecedented rains have swollen all rivers and creeks, and caused considerable damage to movable property and growing crops in the bottom lands. The Saint Louis and Keokuk railroad is under water and railroad traffic is suspended. Serious washouts also occurred on the Chicago, Burlington and Quincy railroad, obstructing travel.

The observer at Cairo, reports that much damage has been done to the crops in that locality by the heavy rains and floods.

In southern Indiana, the counties of Jackson, Lawrence, and Martin were inundated and entire crops destroyed. Fifteen miles of track on the Bedford narrow-gauge railroad were washed away.

At Owingsville, Kentucky, May 12th, the heavy rains caused an overflow in Prickley-Ash creek, sweeping everything before it. All the fencing along the creek was swept away, and much stock was lost; wheat and corn planted in the bottoms suffered considerable damage.

Reports from Memphis, Tennessee, May 10th, stated that fears are entertained that another overflow may occur

The Wolf river, to the east of Memphis, has overflowed and washed away several hundred yards of the levee at Raleigh,

and 600,000 to 1,000,000 feet of logs were carried out of the river.

Numerous plantations are already saturated with water from the threatening river.

At Shreveport, Louisiana, 17th, the Red river rose rapidly, caused by the swollen condition of its tributaries. Much damage was done to the cotton crop, and many farmers along the river have plowed up the cotton and are planting corn and millet.

Reports from Bolivar county, Mississippi, dated May 22d, state that 7,000 acres of land are under water in that county.

At Palestine, Texas, on the seventh, heavy rains caused washouts on the railroad; two bridges and trestle-work near Buffalo creek were destroyed.

At Saint Vincent, Minnesota, 4th, the lower part of the town was about twenty inches under water. On the eleventh the water receded but on the fifteenth again rose, and reached the habitations, causing several families to vacate their dwellings. The average depth of water throughout the town was from three to four feet, except in the extreme northern part, which was not overflowed. The rise being gradual, the people were enabled to secure their property and the damage was consequently slight. The overflowed region extended from Breckenridge, Minnesota, to Morris, Manitoba, about twenty-five miles north. No damage occurred to crops in the vicinity of Saint Vincent, as the average width of the flood on either side of the river, contiguous to the town, did not exceed one mile.

Keokuk, Iowa, during the sixth and seventh, the Skunk and Des Moines rivers rose rapidly, washing out railroad tracks and causing considerable damage.

HIGH TIDES.

New London, Connecticut, 12th, 26th.

Little Egg Harbor, New Jersey, 11th, 12th.

Fort Macon, North Carolina, 15th.

Hatteras, North Carolina, 14th, very high tide; overflowing the greater portion of the island.

Portsmouth, North Carolina, 14th.

Cape Lookout, North Carolina, 13th, cape nearly covered.

New River, North Carolina, 13th, highest tide since 1876.

Indianola, Texas, 9th.

Flushing, New York, very high tides on 10th, 11th, 12th.

Delaware Breakwater, 13th.

New York, 11th, 12th, highest tides ever known, causing great damage at various watering places along the coasts of Long Island and New Jersey.

TEMPERATURE OF WATER.

The temperature of water, as observed in rivers and harbors at Signal Service Stations, with the average depth at which observations were taken, is given in the table on the right-hand of chart ii. In the first column of the table is given the maximum temperature observed during the month; and in the second column the minimum temperature observed during the same period.

The following table gives the highest and lowest temperature of water at the several stations, with the range of water temperature, mean temperature of the air at the station, and the depth of water at which the observations were taken. It will be seen that the greatest ranges of water temperature occurred at the following stations: Chincoteague, 21°; Galveston, 19°; New Haven, 16°; Alpena and Toledo, 15°.

Temperature of Water for May, 1882.

STATION.	Temperature at bottom.		Range.	Average depth in feet and inches.	Mean temperature of the air at station.
	Max.	Min.			
	°	°	°	ft. in.	°
Atlantic City	59.3	51.2	8.1	5 7	73.2
Alpena	55.	40.	15.0	42 0	44.4
Augusta	79.9	68.	11.3	6 10	69.7
Baltimore	67.	55.	12.0	9 11	[illegible]

Temperature of Water for May, 1882—Continued.

STATION.	Temperature at bottom.		Range.	Average depth in feet and inches.	Mean temperature of the air at station.
	Max.	Min.			
	°	°	°	ft. in.	°
Boston	54.5	45.2	9.3	25 0	49.8
Buffalo	57.	46.	11.0	9 11	49.3
Burlington					
Cedar Keys	84.	70.	14.0	9 2	75.2
Charleston	77.4	67.4	10.0	41 9	71.7
Chincoteague	70.	49.	21.0	6 0	56.2
Cleveland	59.1	48.6	10.5	14 0	51.0
Detroit	57.	45.	12.0	24 3	53.2
Duluth	45.	36.	9.0	14 11	46.1
Delaware Breakwater	63.5	51.	12.5	8 7	55.0
Eastport	39.7	35.8	3.9	15 8	43.5
Escanaba	52.	40.	12.0	15 0	46.6
Galveston	83.	64.	19.0	14 8	75.2
Grand Haven	58.5	46.5	12.0	19 0	51.9
Indianola	82.4	71.7	10.7	9 8	75.8
Jacksonville	81.	73.	8.0	18 0	74.6
Key West	87.2	77.8	9.4	17 1	80.0
Marquette	46.0	38.0	8.0	10 8	46.0
Milwaukee	51.5	42.6	8.9	8 0	48.7
Mobile	75.5	69.0	6.5	16 0	72.6
New Haven	63.2	47.2	16.0	14 9	51.3
New London	54.	46.	8.0	13 2	51.5
Newport	55.1	43.9	11.2	10 9	49.8
New York	59.	48.5	10.5	22 7	53.5
New Shoreham	53.8	44.8	9.0	9 4	48.9
Norfolk	70.	60.	10.0	16 11	63.0
Pensacola	77.7	72.	5.7	17 9	72.8
Portland, Me	48.5	40.5	8.0	19 1	51.5
Portland, Oreg	58.8	50.	8.8	76 4	56.3
Port Eads	70.5	67.	3.5	9 9	74.1
Provincetown	53.5	44.	9.5	14 0	48.0
Punta Rassa	87.	76.6	10.4	11 8	76.7
Sandusky	60.7	48.5	11.2	10 0	52.8
Sandy Hook	56.6	47.9	8.7	2 3	54.3
San Francisco	58.6	53.6	5.0	29 4	56.2
Savannah	78.8	69.9	8.9	18 3	72.8
Smithville	75.	67.	8.0	10 0	68.0
Thatcher's Island	50.6	40.5	10.1	7 0	47.8
Toledo	65.	50.	15.0	12 1	53.4
Wilmington	74.5	67.	6.5	18 0	68.5

ATMOSPHERIC ELECTRICITY.

AURORAS.

No remarkable auroral displays were observed during the month. The most important display occurred on the seventeenth, and was reported by stations in New England, Alpena, Michigan, and Bismarck, Dakota, as follows: Portland, Maine: A faint auroral light visible from 9 to 11 p. m. Gardiner, Maine: Faint aurora visible from 10 p. m. to 12.30 a. m. of the eighteenth; Mount Washington: Faint aurora visible from 10.15 p. m. until 12.20 a. m. of the eighteenth, extending from northwest to northeast, and to an altitude of 15°; Burlington, Vermont: From 11 to 11.40 p. m., aurora consisting of a dark segment with a few well-defined streamers; Alpena, Michigan: From 8.40 to 11.40 p. m., aurora consisting of a diffuse light in the northern sky, with a few faint streamers shooting towards the zenith; Bismarck, Dakota: Auroral light visible from 9 to 11 p. m.; beams reaching altitude of 15° were observed from 9.30 to 10 p. m. Other displays have been reported as follows:

Antrim, New Hampshire, 5th,: Aurora observed during the evening.

New Corydon, Indiana, 9th,: Faint aurora observed from ten p. m. until midnight.

Pensacola, Florida, 9th, from 8 to 9.15 p. m.: An aurora of whitish color, sufficiently bright to attract the attention of all persons on the streets, was observed between the north and northwest. The presence of clouds prevented its extent from being more fully determined.

Bangor, Maine, 10th,: Aurora with streamers at 9 p. m.; was more brilliant at 11 p. m.

Newport, Vermont, 10th,: Aurora during the evening.

Vevay, Indiana, 10th · Faint aurora, visible from 10 to 11.30 p. m.

Eastport, Maine, 11th, from 11 to 11.40 p. m.: Aurora of bright straw color, appearing in bright flashes and fading away at intervals. In the northwest, streaks of a deep crimson color were observed.

Gardiner, Maine, 11th, 8 p. m.: Bright aurora; obscured by clouds at 10.30 p. m.